SECTION 32 11 17

AGGREGATE SUBBASE COURSES

1.01 SECTION INCLUDES

A. Subbase materials.

B. Installation standards.

C. Spreading of material.

D. Compacting.

E. Field quality control.

1.02 RELATED SECTIONS

A. Aggregate base course for pavements is specified in Contract Specifications Section 32 11 23, Aggregate Base Courses.

B. Preparation of sub grade is specified in Contract Specifications Section 31 00 00, Earthwork.

1.03 CLASSIFICATION

A. Aggregate subbases are designated as Class 1, Class 2, or Class 3. The class of aggregate subbase shall be indicated.

1.04 MEASUREMENT AND PAYMENT

A. General: Measurement and payment for aggregate subbase will be by the lump-sum method or by the unit price method as determined by the listing of the bid item for aggregate subbase indicated in the Bid Schedule of the Bid Form.

B. Lump Sum: If the Bid Schedule indicates a lump sum for aggregate subbase, the lump sum method of measurement and payment will be in accordance with the Lump-Sum Measurement in Contract Specifications Section 01 20 00, Price and Payment Procedures.

C. Unit Price:

1. If the Bid Schedule indicates a unit price for aggregate subbase, the unit price method of measurement and payment will be as follows:

    a. Measurement: Aggregate subbase will be measured for payment by the cubic yard for each class of aggregate placed in the Work. The quantity for payment will be based on the dimensions, neat lines or pay lines, and sections indicated on the Contract Drawings.

b. Payment: Aggregate subbase will be paid for at the indicated Contract unit prices for the computed quantities as determined by the measurement method specified in Article 1.04C herein.

1.05 REFERENCES

A. American Society for Testing and Materials (ASTM):

1. ASTM C136/ C136M — Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
2. ASTM D1241 — Standard Specification for Materials for Soil-Aggregate Subbase, Base, and Surface Courses
3. ASTM D1557 — Standard Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort
4. ASTM D2419 — Standard Test Method for Sand Equivalent Value of Soils and Fine Aggregate
5. ASTM D2844/ D2844M — Test Method for Resistance R-Value and Expansion Pressure of Compacted Soils
6. ASTM D6913/ D6913M — Standard Test Methods for Particle Size Distribution (Gradation of Soils Using Sieve Analysis)
7. ASTM D6938 — Standard Test Methods for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)

B. State of California, Department of Transportation (Caltrans), Standard Specifications, latest edition:

1. Section 10-6 — Watering
2. Section 25 — Aggregate Subbases

1.06 SUBMITTALS

A. General: Refer to Contract Specifications Section 01 33 00, Submittal Procedures, for submittal requirements and procedures.

B. Product Data: Submit source, gradation, R-value, and sand equivalent for the proposed subbase material.

C. Test Reports: Submit plant and field test reports as specified in Articles 2.02 and 3.05 herein.

PART 2 – PRODUCTS

2.01 SUBBASE MATERIAL

A. Aggregates for the three classes of aggregate subbase shall conform to the requirements described in the materials section of Caltrans Standard Specifications Section 25.

2.02 SOURCE QUALITY CONTROL

A. The Contractor shall take, prepare, and perform sampling and tests of the aggregate subbase material as delivered to the site in accordance with the ASTM D6913/6913M Test Methods herein specified, to determine compliance with specified requirements.

B. Aggregate grading or sand equivalent test shall represent no more than 500 cubic yards of subbase material or one day's production, whichever is the lesser amount.

PART 3 – EXECUTION

3.01 EXAMINATION

A. The Contractor shall request an inspection by the Engineer and obtain acceptance of the prepared sub grade before proceeding with placement of the aggregate subbase.

B. Immediately prior to spreading, the sub grade to receive aggregate subbase, shall conform to the compaction and elevation tolerances indicated for the material involved and shall be free of standing water and loose or extraneous material.

3.02 INSTALLATION STANDARDS

A. Aggregate subbase shall be applied over the prepared sub grade and compacted in accordance with Section 25 of the Caltrans Standard Specifications.

B. Aggregate subbase shall be minimum uniform thickness after compaction of dimensions indicated. Where not indicated, compacted thickness shall be six inches.

C. Compaction expressed in percentage in this Section refers to the maximum dry density as determined by ASTM D1557.

3.03 SPREADING OF MATERIAL

A. Spreading of aggregate subbase material shall be by approved methods and conform to the requirements as described in Section 25 of the Caltrans Standard Specification.

3.04 COMPACTING

A. Compaction of aggregate subbase material shall be by approved methods and conform to the requirements as described in Section 25 of the Caltrans Standard Specification.

3.05 FIELD QUALITY CONTROL

A. The Contractor shall perform field tests in accordance with ASTM D6938 to determine compliance with specified requirements for density and compaction of subbase material, and with ASTM D6938 to determine moisture-content compliance of the installed subbase material.

B. Testing frequency shall be not less than one test for every 2,000 square feet of subbase material, per layer or lift.

END OF SECTION 32 11 17